Monthly Estimates of Sales of All Retail Stores, 1935-41[1]

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AN economic measure of exceptional importance at the present time is one that reveals changes in the level of consumer expenditures for goods and services. With defense output encroaching on some phases of civilian production and with price increases accelerating, the economy daily faces many new and difficult problems that require speedy solution.

Not all of these problems are related to military production; many are strictly concerned with civilian welfare. Adjustment to an all-out defense effort requires that civilian problems be met as squarely as those which are more military in character.

At the moment, the rational allocation of scarce raw material supplies among many civilian lines competing for them is a major problem. So, also, is the question of price control. Consumer spending is being accelerated as incomes expand under impetus from defense spending. Already, in many lines consumer output is unable to match the growth in demand and prices are advancing.

Successful solution of these and other defense problems requires the compilation of a wide variety of data not heretofore available: on demand, capacity, inventory, ability to transport, and so on. Among the more essential—particularly for analysis of the general demand picture—are data on consumer expenditures.

In an effort to provide some of this essential information the Bureau of Foreign and Domestic Commerce has undertaken to prepare a monthly series of total consumer expenditures. In this article the methods and results of one phase of this general study, namely, monthly estimates of sales of all retail stores[2] are presented.

For the most part sales of retail stores represent consumer purchases of commodities, which constitute about two-thirds of all consumer expenditures. Thus it is hoped that these data will prove a valuable addition to the fund of information already available and needed in the present emergency. Furthermore, monthly data on sales of retail stores provide a current measure of activity in retail trade which will be useful to businessmen, investors, and others who are constantly making decisions based in part on their anticipation of consumer demand.

[1] The authors wish to acknowledge the contributions of Luther W. Stringham who assisted in the methodology and prepared much of the statistical materials; J. Harold Stehman who worked up some of the indexes of the independent store series in the early stages of the study; and Rebe L. Osborne who supplied the chain store indexes.

[2] A study of total consumer expenditures will be given in a future article on consumption where the problems of definition and measurement, a discussion of which is beyond the scope of this article, will be presented.

Consumer Purchasing in Record Volume.

Consumer purchases of commodities have increased to unprecedented levels in recent months. In fact, sales of retail stores in 1941 are estimated at approximately 54.3 billion dollars. As shown in table 1, this compares with 45.7 billion dollars in 1940 and 48.5 billion in 1929. Eliminating as far as possible changes in the level of retail prices, sales in 1935–39 dollars are estimated at 50.7 billion dollars in 1940 and 41.0 billion in 1929. Finally, after allowing for population growth, real retail sales per capita in 1941 are estimated at roughly 10 percent above the 1929 and 1940 levels.

Thus, sales of retail stores are at an all-time high whether measured in current or constant dollars, aggregate or per capita. Cuts in civilian output of certain goods have already been made and undoubtedly further reductions will be announced this year and next. However, it is clear that any over-all reduction in the output of civilian goods must reach large proportions before it lowers the standard of living below the highest levels attained before the defense program was inaugurated.

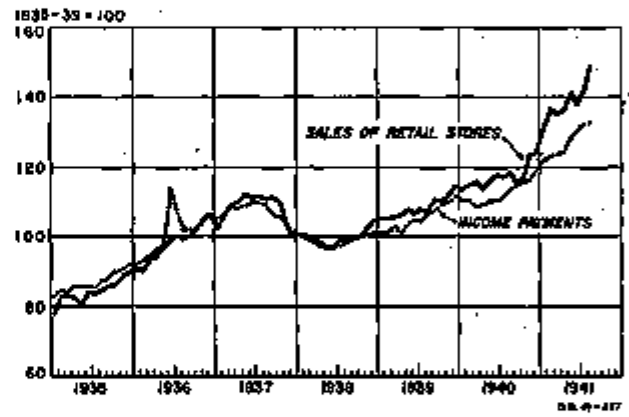

Figure 10.—Indexes of Sales of Retail Stores and Income Payments, Adjusted for Seasonal Variations.

Source: U. S. Department of Commerce.

The rapid expansion in sales of retail stores is shown by the estimated increase of 8.6 billion dollars, or 19 percent, for 1941 over 1940. This is the largest year-to-year increase both in dollars and in percent since recovery began in 1933. Only about half of this increase, however, represents an expansion in the volume of goods, the remainder representing increased prices.

As suggested above, the great increase in sales of retail stores has important implications for the general problem of price control. Income payments have in-

creased at a rapid rate, and in spite of higher individual income tax rates and reduction in the volume of consumer credit, demand for goods will continue to increase. It is estimated that income payments this year will amount to nearly 90 billions of dollars, as compared with 76 billions in 1940. If the present rate of increase in defense spending continues, income payments will be substantially greater in 1942 and demand for civilian goods will also increase. As more and more labor and materials are diverted to production for defense, output of civilian goods will be unable to keep up with increased buying power and an increase in the price level is clearly indicated.

That larger income payments are normally accompanied by increased purchases of commodities is clearly seen in fig. 10 which shows the correspondence in the movements between sales of retail stores and income payments on a seasonally adjusted basis since 1935. The two series are derived from almost entirely independent sources. On the whole, the similarity in the movements of the two curves shown in the chart is very striking. The marked dissimilar movement in income payments in 1936 is due to the bonus payment in that year, and since that part of it spent for commodities did not immediately find its way into retail channels, sales did not show a corresponding movement. Although the association between the two series has been rather close in the past, it will undoubtedly be disturbed in the near future as restrictions on output of civilian goods become more widespread and purchasing power is diverted by taxation and other means to military output.

It is also evident from the chart that throughout the period sales of retail stores have been somewhat more flexible in percentage terms than have income payments. From 1935 to 1937 sales rose by a larger percent than income payments, and from 1937 to 1938 they fell by a larger percent. For the last 3 years their percentage rise has again been steeper than that of income payments. This greater flexibility of retail sales of commodities is due in part to the fact that consumer expenditures on services have been somewhat more stable than their incomes.[1]

The results and methods used in estimating sales of all retail stores are presented in the following sections in considerable detail. Although a more useful series would be that of consumer expenditures for commodities, data on a commodity basis are not available currently and it is not possible to estimate such expenditures directly.

Sufficient information is available, however, on sales of retail stores to provide a basis for deriving an index which is believed to reflect the movements of consumer expenditures for commodities fairly adequately. The dollar estimates, however, indicate only approximately the actual level of consumer expenditures for commodities.

Many adjustments, such as the addition of direct sales of commodities to consumers by manufacturers, wholesalers, and at army posts, and the deduction of sales of building materials, for example, not made to ultimate consumers, must be made in order to obtain total commodity sales to consumers.

It is important that the nature of the estimates presented below be clearly understood. In each case the monthly data represent sales of retail stores as defined by the Census of Business. A store is classified in retail trade if over half of its sales are at retail. Total sales as published by the Census of Business for 1935

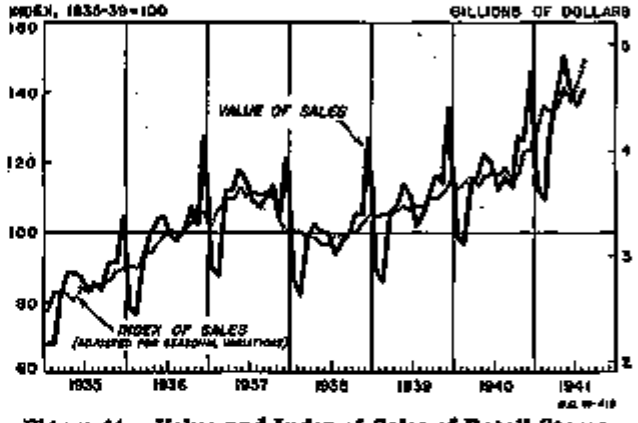

Figure 11.—Value and Index of Sales of Retail Stores.

NOTE.—One hundred points on the left scale equal $8,236,000,000 (average sales for 1935-39), on the right scale.

Source: U. S. Department of Commerce.

were used as a base in the monthly series, and these series were then adjusted to sales of retail stores shown in the 1939 Census. In other words, the 1935 and 1939 dollar estimates presented in tables 1 and 3 agree with the corresponding totals from the Census of Business.

The monthly estimates of sales of retail stores have been built up from estimated sales for each of ten groups of retail stores. The ten groups of stores have been selected on the basis of Census classification by kind of business. The groups included are: (1) food stores, (2) eating and drinking places, (3) apparel stores, (4) filling stations, (5) building materials (including lumber) and hardware dealers, (6) household furnishings (including furniture, household appliances, and radio) stores, (7) automotive stores (excluding garages), (8) drug stores, (9) general merchandise (including general) stores, and (10) other retail stores.

For each group of stores monthly dollar estimates were prepared, adjusted to the 1935 and 1939 Census levels, together with daily average indexes both with and without seasonal adjustment. In addition to these ten kinds of business, sales of durable goods stores were obtained by combining groups (5), (6), (7), and jewelry

[1] The greater stability of services in relation to retail sales is confirmed by the data developed by Simon Kuznets, "Commodity Flow and Capital Formation," National Bureau of Economic Research, and by data on expenditures for services compiled by this Bureau thus far in connection with the development of a series on total consumption.

stores included in group (10) above. The remaining stores were combined into a group called nondurable goods stores.

Figure 11 shows total sales of retail stores both as unadjusted dollar aggregates and as an index adjusted for seasonal variations. The breakdown into sales of durable and nondurable goods stores is shown in figure 12. The differential behavior of these two groups is to be noted particularly in recent months.

It is to be emphasized that sales of durable goods stores are not equivalent to durable goods sales since durable goods are also sold at stores selling chiefly nondurables such as department stores, and obversely durable goods stores sell some nondurable commodities. Nevertheless, these indexes reflect broad changes in sales of durable and nondurable goods. Tables 1 and

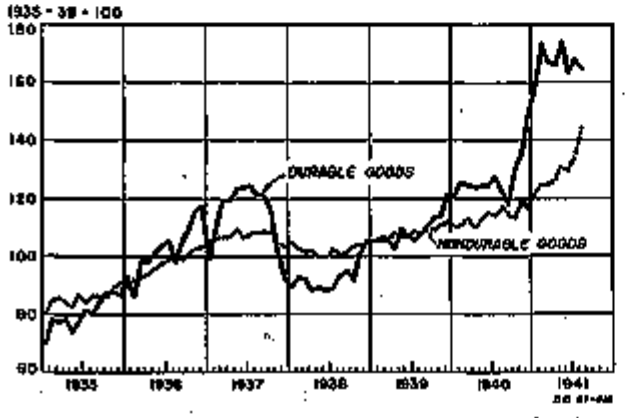

Figure 12.—Indexes of Sales of Durable and Nondurable Goods Retail Stores, Adjusted for Seasonal Variations.

Source: U. S. Department of Commerce.

2 show annual dollar sales and indexes for each kind of business.

It is also to be emphasized that the estimates presented are of a preliminary character. It is recognized that some of the series utilized are not entirely reliable, but pending further investigation of other available data they were used for this preliminary index. Since all of the series, however, are adjusted to the Census of Business for 1935 and 1939, the estimates probably represent sales fairly adequately during the period.

Table 3 shows monthly dollar sales for all retail stores and seasonally adjusted indexes for each of the 10 groups.[1]

Methods Used in Estimating Sales

The remainder of this article is devoted to a detailed description of sources of data and methods used in deriving the monthly series of sales of retail stores.

Definitions.

A retail store, by census definition, is briefly a readily recognizable place of business with more than one-half of its sales at retail. The classification of stores by kind of business in the census is based primarily on the commodities sold. Thus, food stores are stores primarily selling food, although most of them sell limited quantities of other commodities such as household supplies.

Sales of retail stores represent "total operating receipts of stores after deduction of refunds or allowances for merchandise returned by customers." They thus include receipts for services such as film development, automobile greasing, and electric appliance repairs, when these services are obtained at retail stores.

Excluded from sales in the 1939 Census are state and local sales taxes which are collected by stores directly from customers over and above the marked selling price and paid directly by stores to the local or state taxing agency.[2] Excise taxes, gasoline and other taxes which are paid by the manufacturer or wholesaler, and passed along to the retailer are included in sales.

Basic Series and Their Sources.

Monthly sales of all retail stores were derived by adding estimates made for ten component series, each representing sales of retail stores in one kind-of-business group. To estimate sales of these groups of stores 21 separate basic series were used. Nine of the ten groups (excluding other retail stores) together with the series employed and the weight which each series has in the total index of sales are listed below. (See table 1.) The weights are based on total sales by kind of business and type of operation as shown by the Census in 1935 and 1939 together with estimates for the intervening years.

Independent Stores.

Of the 21 series used, 11, with a total weight of 52 percent, are based on sales reported to the Bureau of the Census by independent retailers. At the present time more than 20,000 independent stores, with sales amounting to more than 3 billions of dollars per year, are reporting currently to the Census Bureau. Each reporting store is asked for three sales figures; the current month, the preceding month, and the same month a year ago. Sales for reporting firms are totaled, and percentage changes calculated and published by the Bureau.

Inclusion of series from this independent store sample is essential to obtain a rounded picture of the movement in the volume of retail trade, since independent stores do approximately three-fourths of all retail business. The problems involved in obtaining a representative sample of independent stores, however, are very great because of the shifting retail store population, frequent refusals to give information, and the large number of very small stores.

For some types of business, these problems are so great that changes in sales of identical stores are not the best source of information for estimating changes in total sales; hence other sources of information were

[1] The estimated monthly dollar sales for each of these groups are available on request to the Current Business Analysis Unit, Bureau of Foreign and Domestic Commerce.

[2] In the present estimates, no adjustment of Census figures has been made to allow for possible inclusion of some of the taxes in sales as reported in the 1935 Census.

used. It is believed that the 11 series retained after checking against the change reported by the Census of Business from 1935 to 1939 reflect fairly accurately the movements in retail trade.

In utilizing these Census Bureau data for the present estimates, an index was built up for each kind of business listed, using both the month-to-month and the year-to-year changes. Each of the 11 group indexes so derived measures the estimated change in sales of identical stores. To obtain total dollar estimates by months each index was then applied to the 1935 aggregate sales as reported in the Census of 1935 for independent stores—or in some cases all stores—in that kind of business.

Table 1.—Monthly Series Used for Estimating Sales, by Kind of Business

Kind of business	Series used for estimating monthly sales	Source of data	Weight in total index
Food	Chain grocery store sales	Bureau of Foreign and Domestic Commerce.	10.6
	Food group, retail sales, independent stores.	Bureau of the Census	18.6
Eating and drinking	Restaurants, cafeterias, lunchrooms, retail sales, independent stores.	do	6.8
Apparel	Chain men's wear store sales	Bureau of Foreign and Domestic Commerce.	.6
	Men's clothing stores (and furnishings) retail sales, independent stores.	Bureau of the Census	2.0
	Family clothing stores, retail sales, independent stores.	do	1.4
	Women's ready to wear stores, retail sales, independent stores.	do	3.0
	Shoe stores, retail sales, independent stores.	do	1.9
Filling stations	Gasoline dollar sales, obtained by multiplying:		7.1
	A. Gasoline distribution, gallons taxed.	American Petroleum Institute.	
	B. Gasoline price, service station, 50 cities (including tax).	American Petroleum News.	
Building materials and hardware	Lumber and building materials dealers, retail sales, independent stores.	Bureau of the Census	3.5
	Hardware stores, retail sales, independent stores.	do	3.1
Household furnishings	Furniture-household-radio group, retail sales, independent stores.	do	4.6
Automotive	New passenger car sales	Bureau of Foreign and Domestic Commerce.	6.6
	Used car financing	Bureau of the Census	4.2
	Gasoline dollar sales: Same as above computation for filling stations.	American Petroleum Institute and American Petroleum News.	3.7
Drug	Chain drug store sales	Bureau of Foreign and Domestic Commerce.	1.6
	Drug stores, retail sales, independent stores.	Bureau of the Census	3.1
General merchandise	Department store sales	Board of Governors, Federal Reserve System.	3.6
	Store sales, Montgomery Ward and Sears Roebuck.[1]	Bureau of Foreign and Domestic Commerce.	1.8
	Catalog sales of mail order houses.	do	1.4
	Variety store sales	do	2.0
	General stores (with foods) retail sales, independent stores.	Bureau of the Census	3.5

[1] Beginning January 1941 when the Federal Reserve sample of department stores was enlarged to include many of these stores, this series was omitted and the weight added to the department store sales series.

Chain Stores.

The four chain store series—grocery, men's wear, variety, and drug—entering into the index of sales of all retail stores have a total weight of 15 percent. They are based on reports made directly to the Bureau of Foreign and Domestic Commerce by chain organizations having a large proportion of the chain store sales in their respective kind of business. Monthly releases are prepared by the Bureau for each of the four kinds of business, and three of the series have been described in detail in the Survey of Current Business—grocery store sales in the May 1937 issue, variety store sales in August 1940, and drug store sales in November 1940. Indexes based on aggregate dollar sales of each group were applied to the 1935 sales reported by Census for all chain stores in each of the four kinds of business as reported by the Census.

Current reports to the Bureau of Foreign and Domestic Commerce of store sales are received from Montgomery Ward and Sears Roebuck. These companies and one other mail-order house—the three of which account for well over 90 percent of aggregate sales by mail-order houses—also report their catalog sales. Catalog sales of the three mail-order houses were expanded to cover all general merchandise mail-order houses as measured by the 1935 Census. Store sales of the two mail-order houses were used without relation to any Census figure since it seemed more reasonable to assume that sales of other chain department stores move like independent department stores than like these two rapidly growing firms. Beginning in January of this year, when the larger stores of Ward, Sears, and certain other chains were included in the Federal Reserve sample, store sales of these two companies were discontinued as a separate series.

The index of department stores sales compiled by the Board of Governors of the Federal Reserve System was used as one of the basic series. Through last year, the weight for the series was that of the store sales in 1935 of all department stores, except Montgomery Ward and Sears Roebuck. For this year, the weight includes store sales of these two chains.

The three series used to estimate sales of filling stations and automotive stores, namely, new passenger car sales, used car financing, and gasoline sales, are not based on total sales of a sample of these retail stores. Rather, the series used are estimates of total sales of specific commodities by all retail stores. This departure from the procedure used for other kinds of business was made for two principal reasons. First, retail sales estimates for these three commodities are believed to be reasonably accurate and almost complete. Second, the number of automotive stores, and the number of filling stations increased greatly from 1935 to 1939 according to census count—a factor difficult to allow for in estimating total sales from an identical store sample. Automotive stores increased more than 19 percent and filling stations 22 percent in the 4 years.

The new passenger-car sales series compiled by the Bureau of Foreign and Domestic Commerce is described in the SURVEY OF CURRENT BUSINESS for August 1941. It is based on unit sales reported by the Automobile Manufacturers Association together with quoted prices per unit compiled by the Bureau. The used-car

financing series is published by the Bureau of the Census and is based on reports from about 400 sales-finance companies, banks, etc., doing substantially all of the automobile financing in the United States. The gasoline sales series is computed by multiplying the number of gallons taxed in the 48 States and the District of Columbia, by the average service station price in 50 cities including tax, from the National Petroleum News.

Table 2.—Sales of Retail Stores, by Kind of Business

Stores, by kind of business	Sales (millions of dollars)								
	1929	1933	1935	1936	1937	1938	1939	1940	1941 [1]
All retail stores	48,459	24,517	32,791	38,403	42,148	38,784	42,039	45,004	54,265
Durable goods stores	14,159	4,844	7,096	9,784	10,882	8,911	10,376	12,157	15,516
Nondurable goods stores	34,279	19,673	25,165	[illegible]	31,266	[illegible]	[illegible]	33,537	38,739
Food	10,867	5,776	8,362	[illegible]	9,964	9,740	10,185	10,704	12,379
Eating and drinking	2,125	1,430	2,391	2,879	3,540	3,284	[illegible]	3,721	4,396
Apparel	4,241	1,930	2,056	[illegible]	3,320	3,091	[illegible]	3,413	4,096
Filling stations	1,787	1,532	1,908	[illegible]	2,579	2,598	[illegible]	2,981	3,399
Building materials and hardware	3,646	1,348	1,804	2,374	2,087	2,180	2,738	2,937	3,734
Household furnishings	2,755	940	1,290	1,624	1,808	1,543	1,733	1,954	2,411
Automotive	7,043	2,307	4,237	5,498	6,044	4,472	5,549	6,519	[illegible]
Drug	1,690	1,000	1,233	1,351	1,400	1,491	1,562	1,650	1,848
General merchandise	9,010	4,860	5,730	6,368	6,480	6,142	6,475	6,791	7,874
Other	4,900	3,132	[illegible]	3,668	4,169	3,639	4,221	4,532	[illegible]
All retail stores in 1935-39 dollars [2]	41,032	28,202	33,680	38,796	40,624	38,591	42,067	45,749	50,744

[1] Estimates based on sales for 8 months.
[2] Sales for each kind of business were deflated by a price series and the results added for each year. Cost of living indexes published by the Bureau of Labor Statistics, other retail price series, and, in two cases, combinations of retail and wholesale price series were used.

To estimate monthly dollar sales of filling stations, the gasoline sales series was converted to an index and multiplied by total sales of filling stations in 1935 as reported by the census of that year.

To obtain sales of automotive stores, an arbitrary weighted average of all three series mentioned above was used after they had been reduced to index form with 1935 = 100. The weights used, namely, two for new passenger-car sales, and one for each of the other two series, are believed to approximate very roughly the relative sales volume of new cars, used cars, and gasoline (including parts, accessories, etc.). The gasoline series was included partly because automotive stores sell considerable amounts of gasoline and oil but primarily because sales of parts and accessories which were not estimated separately probably move more like gasoline sales than like sales of new or used cars. The weighted index of these three series was multiplied by total sales of automotive stores as published by the Census of 1935.

To estimate sales of other retail stores, which consist of a miscellany of specialty stores, it was assumed that sales move in a manner similar to the changes in total sales of all the groups mentioned above. Dollar volumes of all the foregoing series were therefore added together and multiplied by the 1935 Census ratio of sales of other retail stores to sales of all retail stores excluding "other."

Adjustment to the 1939 Census Totals.

Since each of the series described above was made to agree with the 1935 Census, the 1935 dollar totals for the 10 kinds of business also checked with the total sales as reported by that census. The various business groups, when brought forward to 1939, however, did not check with the 1939 census totals. The discrepancy between the 1939 total for each group and the corresponding census total is shown below.

The discrepancies, aside from eating and drinking places and the general merchandise group, range from 7 percent to 19 percent. For eating and drinking places the increase in the number of establishments from 1935 to 1939 was very great—21 percent. Moreover, drinking places, for which the independent store sample is so small that it could not be used, showed a much more rapid increase both in number of stores and sales per store than did eating places. Other sources of data should certainly be used for this kind of business, and attempts are now being made to use sales-tax collections from a number of States.

Table 3.—Percentage Difference in Sales by Kind of Business Between 1939 Census and 1939 Estimates Before Adjustment to Census

Kind of business	Percent difference [1]
Food	12.3
Eating and drinking	33.6
Apparel	7.5
Filling stations	12.6
Building materials and hardware	15.[illegible]
Household furnishings	16.4
Automotive	6.9
Drug	11.0
General merchandise	−8.3
Other	19.3

[1] The discrepancies are shown as percents of the 1939 estimates before adjustment to the 1939 census totals.

It was decided to adjust the kind-of-business totals to census data because, although the monthly series provide usable estimates of month-to-month changes in retail trade, there is no assurance that they reflect accurately changes over a period as long as 4 years. For many of the less important kinds of business, no monthly series are available. Also, most of the series are based on identical store samples, so that the indexes are estimates of the changes in sales of only those stores which are in business in successive periods. The retail store picture changes considerably over a period as long as 4 years. From 1935 to 1939 the number of retail stores increased 11½ percent; which undoubtedly is one reason that unadjusted 1939 estimated sales totals were lower than census figures for that year.

In making the adjustments to the 1939 census, it was recognized that the use of identical store series to estimate changes in retail trade involves greater downward bias in periods of increasing business activity than in periods of decreasing activity because changes in the number of stores are greater under the former condition.

Account was also taken of the greater reliability of the data for the more recent years. Thus the adjustment for downward bias in the basic series was carried forward since 1939 at a reduced rate from that found for the 1935 to 1939 period.

The actual procedure used in adjusting to the 1939 Census was to develop a smooth curve having the following properties: (1) The 1935 average was 0, (2) the 1939 average was 100 percent, (3) the curve increased most rapidly from the end of 1935 to the middle of 1937 and again during the last half of 1938, (4) during the remaining periods the curve increased only about one-half as rapidly, (5) from 1939 forward a linear projection was used with a slope equal to half of the average rate of increase for the 1935–39 period. The readings obtained from this curve for each month [1] were then multiplied by the 1939 percentage discrepancies shown for each kind of business.

Table 4.—Indexes of Sales of Retail Stores, by Kind of Business

[1935–39=100]

Stores, by kind of business	1929	1933	1935	1936	1937	1938	1939	1940	1941 [1]
All retail stores	124.8	83.1	94.4	98.9	103.5	99.9	103.3	117.7	139.7
Durable goods stores	149.3	51.0	90.3	103.1	114.0	92.8	109.2	128.0	163.4
Nondurable goods stores	114.8	97.1	95.8	97.5	100.6	102.2	101.9	114.3	131.1
Food	115.5	71.4	93.1	97.0	105.2	102.8	107.1	113.4	120.4
Eating and drinking	99.9	45.4	77.6	93.4	103.8	100.5	114.2	128.7	140.0
Apparel	137.6	62.0	96.2	100.2	107.7	103.3	105.7	110.7	132.9
Filling stations	71.6	61.3	78.2	93.5	107.2	107.8	113.0	119.4	130.0
Building materials and hardware	169.4	56.8	76.6	97.5	110.7	102.1	112.0	123.0	151.8
Household furnishings	172.2	53.0	90.6	101.0	113.0	96.5	108.3	123.9	163.2
Automotive	196.4	45.9	82.1	103.0	117.1	88.7	107.0	132.2	165.6
Drug	117.6	74.4	90.0	95.3	104.6	104.0	105.9	116.1	128.9
General merchandise	143.5	79.3	91.2	101.4	105.3	97.0	108.1	108.1	122.2
Other	182.1	56.5	81.0	98.9	106.7	101.0	111.3	123.7	148.4

[1] Estimates based on sales for 8 months.

For each kind of business except general merchandise, the percentage adjustment necessary to raise the 1939 annual estimate to the 1939 Census figure (that is, the percentage difference in the above list) was multiplied by the percentage adjustments read from the smooth curve for each month. The products gave the percentage adjustment to be applied to sales for each kind of business for each month. Each product was applied to the unadjusted monthly sales for the kind of business to obtain the adjustment in dollars. These adjustments for 1935 and 1939 had to be altered very slightly to agree with census totals for the year.

For the general merchandise group (including general stores), the 1939 estimate before adjustment was above the census figure by a small amount, due probably to the decrease in the number of stores from 1935. Since this represents a trend which is independent of business conditions, it was assumed to have continued to an even pace throughout the period. Accordingly, the percentage adjustment for each month was decreased linearly, being zero in the middle of 1935 and minus 3.3 percent in the middle of 1939. The dollar adjustments were obtained by applying the percentage adjustments to the unadjusted estimates of dollar sales, as for the other kinds of business.

[1] The percent readings from the smooth curve for July of each year were as follows: 1935—0, 1936—25.2, 1937—57.5, 1938—79.8, 1939—101.0, 1940—113.0, 1941—126.0.

Number of Working Days and Seasonal Adjustment.

The months of the year are not of the same length, nor does the same month in different years always have the same number of Sundays and holidays. Since these calendar differences are reflected in the volume of retail trade, and tend to obscure other factors whose effect on retail trade is of primary concern, it is useful for many purposes to have indexes of average daily sales.

The number of working days is not the same for all kinds of business, and three different sets of working days were used for the 10 series. For eating and drinking places, filling stations, automotive stores, and drug stores, no allowance was made for Sundays and holidays, and the number of working days is simply the number of days in the month. For food stores, no allowance was made for holidays, the assumption being that although most food stores close on holidays, consumers buy as much food during the month as if they were open. Sundays, however, were deducted since a month with 5 Sundays has one Sunday so early in the month and one so late that consumers probably do not buy as much food as in a 4-Sunday month of the same length. For the remaining 5 kinds of business, the numbers of working days employed for department stores sales by the Board of Governors of the Federal Reserve System were used. Sundays and certain national holidays (6 during the year) are deducted from the number of calendar days and ½ day is added to 5-Saturday months.

Monthly aggregate sales by type of business adjusted to the 1939 Census were divided by the number of working days computed as just described to obtain sales per working day. These dollar figures for each kind of business were put on an index basis by dividing by the daily average sales for the 5 years 1935–39.

Seasonal adjustment factors were computed from the estimates of daily average sales for each kind of business separately by the 12-month moving average method. Moving seasonals were used in only a few cases because not enough years were available to estimate changes through time with confidence. For several kinds of business, however, December seemed to be getting a larger and larger share of the year's sales, so that moving seasonal factors were used for December and usually two or three other months to compensate for the December movement. In the case of automotive stores, the seasonal adjustment factors used for the new passenger-car index were based on the series described in the August 1941 issue of the SURVEY OF CURRENT BUSINESS, p. 18 to 20. For the sum of the other two components in this group the 12-month moving average method was used to derive a set of adjustment factors. This set was then averaged with

Table 5.—Sales of All Retail Stores, and Indexes of Sales of Retail Stores by Kinds of Business, by Months, 1935–41

Year and month	Unadjusted: All retail stores (millions of dollars)	Unadjusted: Daily average indexes (1935–39=100): All retail stores	Unadjusted: Daily average indexes: Durable goods stores	Unadjusted: Daily average indexes: Nondurable goods stores	Daily average indexes adjusted for seasonal variation (1935–39=100): All retail stores	Durable goods stores	Nondurable goods stores	Food stores	Eating and drinking places	Apparel stores	Filling stations	Building materials and hardware dealers	Household furnishings stores	Automotive stores	Drug stores	General merchandise stores	Other retail stores
1935:																	
January	2,163	65.5	58.8	70.3	77.9	70.7	80.2	88.2	72.6	78.0	66.5	67.9	70.3	72.1	82.1	89.3	73.8
February	2,189	72.4	62.0	75.8	83.0	78.5	84.5	87.3	73.1	83.5	74.9	70.9	78.3	83.0	83.7	93.4	79.8
March	2,010	79.4	75.8	80.5	83.5	77.4	85.5	88.0	74.1	86.1	74.5	70.8	73.5	82.3	84.4	94.3	78.2
April	2,837	87.3	90.3	86.3	82.7	78.3	84.2	88.1	77.2	84.2	77.9	72.5	81.2	80.2	82.4	89.2	80.9
May	2,848	88.3	91.5	86.3	80.5	73.7	83.7	87.2	76.5	78.7	77.7	71.6	78.3	74.0	85.0	90.5	78.7
June	2,807	88.6	92.1	87.5	84.5	77.8	86.7	90.4	77.0	87.8	77.4	75.8	81.5	77.2	85.4	91.5	81.9
July	2,071	80.8	86.5	79.4	83.7	81.4	84.4	90.1	76.1	87.4	78.8	77.1	80.4	84.2	85.1	88.5	83.1
August	2,746	81.5	83.0	81.0	85.0	80.0	86.6	88.7	78.2	87.5	83.1	77.8	78.9	81.2	86.1	92.0	81.9
September	2,088	87.0	77.1	90.2	86.8	84.4	86.5	87.8	78.5	90.8	79.3	83.8	81.3	80.5	85.7	91.1	83.1
October	2,930	87.5	77.5	90.7	86.7	87.4	86.5	87.4	80.8	86.5	83.7	82.0	83.8	91.8	88.3	90.0	83.0
November	2,945	92.1	88.9	93.8	89.1	88.0	89.5	92.1	89.8	91.3	83.1	81.0	88.8	92.0	88.1	93.2	84.8
December	3,370	105.4	92.8	109.4	89.8	89.4	90.9	92.1	90.4	92.8	80.2	88.7	91.0	86.5	89.5	95.8	89.4
1936:																	
January	2,512	70.1	57.6	78.0	90.8	88.5	89.9	91.3	82.7	88.4	87.8	89.0	84.3	101.4	89.1	94.3	89.4
February	2,460	78.7	67.9	82.2	90.3	90.0	91.7	95.2	82.7	94.2	81.7	84.3	85.0	97.2	91.8	95.7	87.1
March	2,984	90.3	95.8	88.2	94.0	98.3	92.0	92.1	80.1	97.4	88.9	93.8	90.9	102.3	91.4	97.5	91.0
April	3,227	99.7	113.8	95.1	94.6	97.8	93.0	92.8	87.6	94.5	90.2	91.2	97.2	101.7	94.2	97.7	94.0
May	3,384	104.7	123.3	98.7	97.2	101.1	96.9	95.3	92.3	99.1	91.1	96.0	104.0	102.1	95.0	98.6	96.7
June	3,325	104.7	124.0	98.5	99.1	103.6	97.6	98.7	92.5	101.4	92.7	98.6	107.7	104.1	97.0	101.0	98.9
July	3,105	99.8	111.0	92.2	100.1	105.2	98.4	97.8	96.0	100.0	94.6	98.4	104.7	109.1	96.9	101.7	98.4
August	3,142	96.5	102.1	93.5	99.5	97.8	100.1	101.8	90.4	98.9	93.3	97.3	102.2	98.8	90.5	102.0	90.1
September	3,241	101.9	99.2	102.8	100.3	106.0	98.6	97.1	98.1	98.4	98.3	98.6	101.6	110.8	98.9	101.6	98.3
October	3,472	102.7	98.1	105.8	103.0	109.0	100.9	98.7	97.4	100.1	97.4	100.0	100.9	117.4	99.2	104.7	98.0
November	3,318	107.4	108.2	107.1	106.0	115.8	102.3	101.2	100.7	105.3	97.2	108.2	100.7	123.1	98.8	105.4	103.3
December	4,130	125.3	127.0	124.7	106.6	117.3	103.1	98.9	102.8	100.2	103.4	112.3	112.3	121.7	103.2	108.5	106.3
1937:																	
January	2,809	89.6	84.8	91.2	102.7	99.3	103.8	104.6	102.1	104.0	98.7	104.3	107.2	93.9	102.9	106.8	104.8
February	2,818	94.1	91.7	94.9	100.8	102.4	106.0	108.2	106.1	110.2	104.4	113.5	110.3	106.3	102.3	108.2	107.0
March	3,021	108.0	119.9	104.1	100.5	110.2	106.4	104.6	105.9	100.0	107.0	111.3	118.6	125.0	102.8	107.4	110.2
April	3,042	112.8	132.3	106.2	110.0	110.3	107.0	104.5	108.8	107.0	107.2	116.2	120.8	120.6	102.6	109.2	109.7
May	3,820	118.4	140.2	111.3	112.4	123.1	108.9	107.1	110.6	110.1	108.9	113.9	119.8	128.8	106.4	110.9	111.4
June	3,716	114.8	130.9	107.6	111.0	123.9	106.8	104.0	109.8	107.6	107.7	116.0	119.2	130.1	104.2	108.4	110.3
July	3,530	106.5	124.0	100.5	111.9	124.5	107.8	106.4	108.2	107.6	110.5	115.4	117.4	131.5	108.4	107.9	110.8
August	3,471	106.1	121.7	101.1	111.3	121.4	108.0	105.7	109.7	111.2	107.5	113.3	119.2	125.6	105.8	107.2	112.2
September	3,580	112.7	111.1	113.2	111.0	121.0	108.5	108.2	111.0	111.0	112.0	111.6	115.1	137.5	100.3	107.0	111.2
October	3,673	111.0	106.7	113.5	110.3	110.0	108.3	107.3	111.1	111.7	107.8	107.2	108.4	123.9	100.8	105.4	110.0
November	3,418	107.5	103.1	108.9	103.8	102.3	104.3	104.3	108.2	102.9	109.1	103.6	102.0	101.5	104.2	101.4	104.3
December	3,940	118.5	101.1	125.5	100.3	91.4	103.3	103.1	109.1	102.3	100.1	97.0	98.1	83.9	104.2	100.2	101.8
1938:																	
January	2,703	80.8	71.7	81.7	100.8	88.8	104.4	103.8	110.3	100.3	106.6	104.0	102.8	77.9	103.0	101.6	103.7
February	2,654	87.9	75.1	92.0	100.1	92.7	102.5	101.8	109.5	100.9	109.6	101.9	98.7	85.6	102.5	98.5	102.1
March	3,175	94.7	90.2	96.2	99.8	91.9	101.3	100.9	104.8	100.2	109.8	100.7	98.0	84.1	102.0	97.8	98.1
April	3,329	102.3	91.4	104.2	98.6	88.3	101.9	103.2	106.7	100.3	107.6	98.2	91.9	81.8	104.1	98.9	99.8
May	3,247	101.0	100.7	101.1	98.9	88.9	99.5	101.5	102.5	98.1	108.6	98.1	88.5	84.1	101.2	94.5	98.2
June	3,230	100.0	97.5	100.8	97.1	88.1	100.0	101.2	109.3	98.1	106.5	99.0	88.8	82.6	102.1	95.6	97.4
July	3,032	93.7	90.6	94.7	98.9	88.8	102.2	102.9	103.0	102.6	108.1	100.4	93.5	81.0	103.1	97.9	101.0
August	3,148	93.7	91.3	94.5	98.8	93.2	100.0	100.2	103.8	98.4	108.9	104.1	96.5	80.8	106.1	96.9	100.2
September	3,228	101.5	88.2	105.6	99.7	94.5	101.4	101.5	105.8	98.8	100.4	101.0	97.6	88.7	106.0	97.4	101.7
October	3,423	104.1	92.4	107.9	100.2	91.4	101.9	104.7	106.9	99.2	107.4	104.0	99.5	82.0	105.2	97.1	104.0
November	3,406	107.1	104.1	106.1	102.8	100.5	103.7	103.0	107.6	102.2	107.8	105.6	100.5	94.2	106.0	98.5	105.0
December	4,130	124.7	113.6	129.3	104.7	104.9	104.6	105.8	109.8	101.2	109.6	105.0	101.5	105.8	106.5	99.2	106.0
1939:																	
January	2,893	89.9	82.8	92.3	105.3	105.6	106.1	104.0	109.7	105.3	108.8	115.1	109.8	99.5	108.0	100.6	109.3
February	2,762	92.2	84.9	94.0	105.5	100.1	106.9	104.5	111.1	102.5	111.8	110.9	105.7	102.7	107.1	100.2	108.8
March	3,425	102.1	104.4	101.4	105.6	100.9	108.7	104.8	112.1	104.5	108.1	111.9	104.8	104.2	108.8	101.3	107.7
April	3,487	110.0	113.2	109.3	100.0	102.7	107.0	108.4	112.9	107.7	108.5	109.7	102.8	99.0	108.5	103.1	110.4
May	3,608	112.1	124.1	108.2	107.7	110.1	100.9	106.0	112.1	106.9	118.5	112.1	104.7	110.9	108.5	102.8	110.5
June	3,577	110.8	120.2	107.5	100.9	107.1	100.8	106.2	114.6	109.3	111.0	109.4	102.8	107.2	108.1	102.3	108.4
July	3,307	102.2	108.0	100.3	108.0	106.9	108.7	107.2	117.3	100.7	114.3	109.7	107.7	109.1	108.2	103.4	112.0
August	3,400	101.7	104.1	100.9	107.0	107.8	107.5	105.9	117.4	106.7	112.7	112.5	108.2	106.7	108.3	102.0	110.0
September	3,600	112.5	104.1	115.2	110.0	110.0	110.5	112.9	114.7	104.6	114.5	110.1	110.7	110.7	110.1	106.0	113.4
October	3,705	115.1	117.1	114.5	110.3	113.2	109.4	108.0	115.0	108.7	114.8	116.2	115.0	110.0	107.8	104.4	117.4
November	3,697	118.3	118.5	116.0	111.0	113.5	111.0	110.7	116.1	108.7	118.0	116.0	116.0	111.1	113.4	104.9	116.1
December	4,410	138.8	131.4	138.7	114.2	121.0	111.8	111.3	117.5	110.5	110.7	119.2	116.1	124.3	111.4	100.5	117.1
1940:																	
January	3,188	96.6	94.2	97.4	113.3	121.0	110.6	109.3	115.8	107.9	120.0	115.3	114.1	128.8	112.0	104.7	117.2
February	3,114	100.0	100.6	90.8	114.6	126.0	111.0	110.8	116.5	104.8	110.0	117.8	116.8	132.6	111.9	103.5	110.0
March	3,806	112.4	118.6	110.4	115.0	124.9	113.0	116.0	119.1	107.1	117.1	114.4	116.7	132.1	114.0	104.4	120.4
April	3,782	116.3	138.9	110.0	112.8	124.2	110.4	110.0	118.3	105.3	118.4	120.2	115.3	128.9	110.9	108.8	117.1
May	3,974	120.4	140.3	114.0	116.0	124.7	113.2	112.1	118.9	110.4	118.1	110.3	118.2	129.4	112.0	107.2	121.3
June	3,883	122.6	143.1	115.8	117.5	124.0	116.2	115.5	118.0	112.4	120.1	119.6	118.8	129.2	113.8	108.9	123.1
July	3,643	110.4	128.8	104.7	117.1	128.1	113.6	111.1	118.7	110.5	118.8	123.0	122.2	131.9	115.3	108.0	123.0
August	3,758	111.6	116.5	100.6	118.7	122.0	117.3	115.7	125.0	126.3	119.2	121.4	120.4	121.4	110.8	112.4	121.0
September	3,673	118.8	116.7	110.5	115.4	118.2	114.5	111.9	122.2	111.4	110.0	120.1	120.6	119.6	115.4	110.3	123.0
October	4,143	122.6	130.3	118.4	117.3	130.0	113.1	111.3	122.2	102.1	121.6	127.0	128.5	134.0	116.3	105.4	125.6
November	4,106	128.4	141.7	124.1	122.4	130.0	119.3	117.6	123.6	120.8	121.6	120.4	132.9	141.2	118.7	119.5	128.6
December	4,762	148.2	155.0	146.0	124.5	148.5	116.7	115.7	124.0	113.7	115.2	136.7	129.6	160.9	118.0	111.4	120.9
1941:																	
January	3,030	110.2	120.5	106.0	120.3	160.8	121.7	116.7	127.7	119.7	121.0	144.6	137.2	189.1	123.5	112.5	134.8
February	3,637	118.1	137.6	111.8	126.6	173.7	124.6	120.7	130.6	110.2	126.5	144.3	142.8	198.4	121.3	115.8	142.0
March	4,207	127.9	166.1	119.1	126.2	167.0	124.7	125.6	121.8	122.6	126.2	134.4	144.8	191.2	122.5	113.8	138.1
April	4,480	142.2	182.9	129.0	130.2	168.2	126.5	123.3	124.1	128.2	136.7	147.4	145.9	181.3	124.3	114.9	144.6
May	4,596	140.6	196.7	128.4	141.5	174.8	128.7	127.7	128.5	133.6	141.2	142.7	151.5	197.0	128.8	117.2	146.8
June	4,678	145.1	190.3	128.6	138.0	163.9	128.6	129.7	130.7	125.7	135.5	152.7	140.9	172.9	127.8	116.9	148.3
July	4,441	134.0	170.6	122.8	142.4	168.1	134.1	130.3	141.4	135.8	145.1	161.4	165.9	170.9	132.3	123.4	151.2
August p	4,598	130.7	166.4	124.3	140.0	164.4	144.0	126.8	140.0	134.9	138.0	164.1	181.0	160.0	137.3	141.1	154.8

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the seasonal factors for passenger-car sales to arrive at a set of factors for the entire group. Seasonal correction factors were made to average 100 for each series in every year.

The daily average index for each type of business for each month was divided by the corresponding seasonal adjustment factor to obtain the index corrected for seasonal variations for that kind of business in each month.

Combination of Indexes.

Aggregate dollar sales of all retail stores were obtained by simply adding estimated dollar sales described above. Indexes of average daily sales of all retail stores were obtained by weighting each kind of business by the ratio of its sales in the 5 years 1935–39 to sales of all retail stores in the same period. Seasonally adjusted indexes of sales of all retail stores were obtained by computing a weighted average (using the same weights) of the separate seasonally adjusted series.

In building up indexes of sales of durable goods stores and nondurable goods stores it was decided to include jewelry stores, for which a good monthly series was available, in the durable goods group, while allocating the rest of the "other retail stores" group to the nondurable goods group. A series of sales of jewelry stores accordingly was built up from the independent store sample of the Bureau of the Census. It was adjusted to the 1935 and 1939 Censuses by the procedures described above. The number of working days computed by the Board of Governors of the Federal Reserve System for department stores was used to obtain average daily sales. Finally, the series was seasonally corrected by the 12-month moving average method.

Aggregate sales of durable goods stores were obtained by adding dollar sales for (1) automotive stores, (2) household furnishings stores, (3) building materials and hardware dealers, and (4) jewelry stores. Daily average indexes with and without seasonal adjustment, were computed by weighting the indexes for each of these four classifications by the proportion which its sales bore to sales of all four classes of stores in the 1935–39 base period. Sales of nondurable goods stores were derived by a similar process from combining with appropriate weights the sales indexes of the remaining types of stores.

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there should have been some overlapping of functions, differences in criteria, and variation in effectiveness. The increasing necessity for complete coordination between economic policies and their integration with foreign policy as a whole led to the creation on July 30 of the Economic Defense Board.

In the Executive Order establishing the Board, the field of "economic defense" is broadly defined to embrace all aspects of foreign trade and other international economic and financial activities. Within this field the Board is instructed to advise the President on essential measures and functions; coordinate the policies and actions of other departments and agencies to assure unity and balance; develop integrated plans for coordinated action by other departments and agencies and use all appropriate means to assure that such plans are carried into effect; make investigations on the relationship of economic defense to post-war economic reconstruction; and review existing or proposed legislation and make recommendations for such additional legislation as may be necessary.

While the objectives and methods of economic defense policy have already been indicated by previous measures and actions, certain phases on which stress would be placed were mentioned by the Vice President, as chairman of the Economic Defense Board, on September 17, 1941, in announcing the transfer to that agency of the Office of Export Control. The Vice President stated that a "determined intensification" of the policy of preventing shipments to Axis-dominated countries was necessary; that other nations still free, particularly other American countries, must get enough goods to maintain the stability of their economics insofar as possible; and that increased supplies of critically needed materials must be obtained, with further adjustments in shipping to achieve this goal and with particular emphasis on securing additional supplies from other Western Hemisphere countries.

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September 1941, grain prices advanced 38 percent on the average; cotton and cottonseed prices were up 97 percent, meat animals 46 percent, chicken and eggs 36 percent, and dairy products 26 percent.

The result has been a 25-percent increase in cash income from farm marketings during the first 8 months over the like period a year earlier. The price advance has given farmers a supplementary source of income by enabling them to redeem and sell at higher prices commodities placed under loan with the Commodity Credit Corporation in prior years.

For the year as a whole, cash income from marketings is expected to be about 10 billion dollars, as compared with 8.4 billion in 1940. Government payments will probably raise the farmers' total cash income to a level approaching the 1924–29 average of 10.8 billion dollars. Such an increase will be relatively larger than the expansion of income in the economy as a whole.

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